

10/25/04

PRESENT

IN THE CLAIMS:

Please amend claims 9 and 10 as follows. Please cancel claim 1 without prejudice.

1. (Cancelled)

2. (Previously Presented) A method of connecting network elements to a radio system comprising one or more network elements, a base station controller and a network management system that are operatively interconnected by means of telecommunication connections comprising traffic channels and control channels, and in which system information between the network elements is transmitted in frames that are divided into time slots, and in which system the base station controller controls one or more network elements, and network element identification information has been fed into a network element to be installed, and in which method the network element is physically connected to the system by means of the telecommunication connections, wherein

in frames used by the base station controller for communication with the network elements, unused consecutive time slots of the frames being divided into one or more groups, and each group having one time slot used as a communication channel as regards time slot allocation from said group, and

predetermining identification information for the base station controller about network elements allowed to be connected thereto, and

after being physically installed, the network element to be installed searching the frames received by means of the telecommunication connections for the

communication control channels of the groups and identifying free groups by means of the communication channels found, and

the network element transmitting over the communication channel of the group its identification information and hardware information to the base station controller comparing the identification information with the identification information about the allowed network elements, and when the identification information is allowed, accepting the network element, and

the base station controller allocating from the group necessary time slots for the use of communication between the network element and the base station controller and informing the network element of the allocated time slots over the communication control channel, and

the allocated time slots being branched by software through the telecommunication connections to the network element.

3. (Previously Presented) A method as claimed in claim 2, wherein the base station controller rejecting the network element if its identification information does not exist among the identification information on the allowed network elements.

4. (Previously Presented) A method as claimed in claim 3, wherein the network element selecting another base station controller group communication channel when the base station controller rejects the network element, and the network element transmitting its identification information and hardware information over the communication channel

to another base station controller, and the network element repeating this procedure until a base station controller accepts the network element.

5. (Previously Presented) A method as claimed in claim 2, wherein some network elements of the radio system being interconnected coupled in series by means of the telecommunication connections.

6. (Previously Presented) A method as claimed in claim 5, wherein the unused-time-slot groups being transmitted by software as whole groups in the frames to network elements that are connected to the base station controllers by telecommunication connections capable of the transmission.

7. (Previously Presented) A method as claimed in claim 5, wherein information on the unused-time-slot groups being manually set into network elements that are connected to the base station controllers by telecommunication connections incapable of transmission by software.

8. (Previously Presented) A method as claimed in claim 2, wherein the network element to be installed, after searching the frames received by means of the telecommunication connections for the communication control channels of the groups, searching the telecommunication connections for routes to the network elements which comprise unused-time-slot groups as whole groups in the frames.

9. (Currently Amended) A method as claimed in claim + 2, wherein the network elements being the base stations of the system.

10. (Currently Amended) A method as claimed in claim + 2, wherein the communication control channel of each group being a last time slot in the group.

11. (Previously Presented) A radio system comprising one or more network elements, a base station controller and a network management system that are operatively interconnected by means of telecommunication connections comprising traffic channels and control channels, and in which system information between the network elements is transmitted in frames that are divided into time slots, and in which system the base station controller controls one or more network elements that comprise network element identification information, wherein

in frames arranged to be used by the base station controller for communication with the network elements, unused consecutive time slots of the frames being divided into one or more groups, and each group having one time slot used as a communication channel as regards time slot allocation from said group, and

predetermining identification information for the base station controller about network elements allowed to be connected to the base station controller, and

after being physically installed, the network element to be installed being arranged to search the frames received by means of the telecommunication connections for the communication channels of the groups and to identify free groups by means of the communication channels found, and

the network element being arranged to transmit over the communication channel of the group its identification information and hardware information to the base

station controller being arranged to compare the identification information with the identification information about the allowed network elements, and when the identification information is allowed, to accept the network element, and

the base station controller being arranged to allocate from the group necessary time slots for the use of communication between the network element and the base station controller and to inform the network element of the allocated time slots.

12. (Previously Presented) A system as claimed in claim 11, wherein the base station controller being arranged to reject the network element if its identification information does not exist among the identification information about the allowed network elements.

13. (Previously Presented) A system as claimed in claim 11, wherein the network element being arranged to select another base station controller group communication channel when the base station controller rejects the network element, and to transmit its identification information and hardware information to another base station over the channel, and the network element being arranged to repeat this procedure until a base station controller accepts the network element.

04/30/04

IN THE CLAIMS:

Please amend claims 1-13 as follows.

A 2
1. (Currently Amended) A method of connecting network elements to a radio system comprising one or more network elements (316, 324, 326, 328, 334, 336), a base station controller (302) and a network management system (300) that are operatively interconnected by means of telecommunication connections comprising traffic channels and control channels, and in which system information between the network elements is transmitted in frames that are divided into time slots, and in which system the base station controller (302) controls one or more network elements, and network element identification information has been fed into a network element to be installed, and in which method the network element is physically connected to the system by means of the telecommunication connections, characterized by wherein

in frames used by the base station controller for communication with the network elements, unused consecutive time slots of the frames being divided into one or more groups (406, 412), and each group having one time slot (408, 414) used as a communication channel as regards time slot allocation from said group, and

the base station controller allocating necessary telecommunication capacity for the use of communication between the network element and the base station controller, and

the allocated telecommunication capacity being branched by software through the telecommunication connections to the network element.

2. (Currently Amended) A method of connecting network elements to a radio system comprising one or more network elements (316, 324, 326, 328, 334, 336), a base station controller (302) and a network management system (300) that are operatively interconnected by means of telecommunication connections comprising traffic channels and control channels, and in which system information between the network elements is transmitted in frames that are divided into time slots, and in which system the base station controller (302) controls one or more network elements, and network element identification information has been fed into a network element to be installed, and in which method the network element is physically connected to the system by means of the telecommunication connections, characterized by wherein

A2

in frames used by the base station controller for communication with the network elements, unused consecutive time slots of the frames being divided into one or more groups (406, 412), and each group having one time slot (408, 414) used as a communication channel as regards time slot allocation from said group, and

predetermining identification information for the base station controller about network elements allowed to be connected thereto, and

after being physically installed, the network element to be installed searching the frames received by means of the telecommunication connections for the communication control channels of the groups and identifying free groups by means of the communication channels found, and

the network element transmitting over the communication channel of the group its identification information and hardware information to the base station controller comparing the identification information with the identification information about the allowed network elements, and when the identification information is allowed, accepting the network element, and

the base station controller allocating from the group necessary time slots for the use of communication between the network element and the base station controller and informing the network element of the allocated time slots over the communication control channel, and

the allocated time slots being branched by software through the telecommunication connections to the network element.

3. (Currently Amended) A method as claimed in claim 2, characterized by wherein the base station controller rejecting the network element if its identification information does not exist among the identification information on the allowed network elements.

4. (Currently Amended) A method as claimed in claim 3, characterized by wherein the network element selecting another base station controller group communication channel when the base station controller rejects the network element, and the network element transmitting its identification information and hardware information over the communication channel to another base station controller, and the network element repeating this procedure until a base station controller accepts the network element.

5. (Currently Amended) A method as claimed in claim 2, ~~characterized by~~ wherein some network elements (324, 326) of the radio system being interconnected coupled in series by means of the telecommunication connections.

6. (Currently Amended) A method as claimed in claim 5, ~~characterized by~~ wherein the unused-time-slot groups being transmitted by software as whole groups in the frames to network elements that are connected to the base station controllers by telecommunication connections capable of the transmission.

A2
7. (Currently Amended) A method as claimed in claim 5, ~~characterized by~~ wherein information on the unused-time-slot groups being manually set into network elements that are connected to the base station controllers by telecommunication connections incapable of transmission by software.

8. (Currently Amended) A method as claimed in claim 2, ~~characterized by~~ wherein the network element to be installed, after searching the frames received by means of the telecommunication connections for the communication control channels of the groups, searching the telecommunication connections for routes to the network elements which comprise unused-time-slot groups as whole groups in the frames.

9. (Currently Amended) A method as claimed in claim 1, ~~characterized by~~ wherein the network elements being the base stations of the system.

10. (Currently Amended) A method as claimed in claim 1, ~~characterized by~~ wherein the communication control channel of each group being a last time slot in the group.

11. (Currently Amended) A radio system comprising one or more network elements (~~316, 324, 326, 328, 334, 336~~), a base station controller (~~302~~) and a network management system (~~300~~) that are operatively interconnected by means of telecommunication connections comprising traffic channels and control channels, and in which system information between the network elements is transmitted in frames that are divided into time slots, and in which system the base station controller controls one or more network elements that comprise network element identification information, characterized by wherein

A 2
in frames arranged to be used by the base station controller for communication with the network elements, unused consecutive time slots of the frames being divided into one or more groups (~~406, 412~~), and each group having one time slot (~~408, 414~~) used as a communication channel as regards time slot allocation from said group, and

predetermining identification information for the base station controller about network elements allowed to be connected to the base station controller, and

after being physically installed, the network element to be installed being arranged to search the frames received by means of the telecommunication connections for the communication channels of the groups and to identify free groups by means of the communication channels found, and

the network element being arranged to transmit over the communication channel of the group its identification information and hardware information to the base

station controller being arranged to compare the identification information with the identification information about the allowed network elements, and when the identification information is allowed, to accept the network element, and

the base station controller being arranged to allocate from the group necessary time slots for the use of communication between the network element and the base station controller and to inform the network element of the allocated time slots.

12. (Currently Amended) A system as claimed in claim 11, ~~characterized by~~
wherein the base station controller being arranged to reject the network element if its identification information does not exist among the identification information about the
allowed network elements.

13. (Currently Amended) A system as claimed in claim 11, ~~characterized by~~
wherein the network element being arranged to select another base station controller group communication channel when the base station controller rejects the network element, and to transmit its identification information and hardware information to another base station over the channel, and the network element being arranged to repeat this procedure until a base station controller accepts the network element.
